




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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,655	12/14/2001	Naoki Nishita	IGARA29.001AUS	2658
20995	7590	03/11/2004	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP			LIN, TINA M	
2040 MAIN STREET			ART UNIT	
FOURTEENTH FLOOR			PAPER NUMBER	
IRVINE, CA 92614			2874	

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 10/024,655	Applicant(s) NISHITA, NAOKI	
	Examiner Tina M Lin	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01/2004</u> . | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
6) <input type="checkbox"/> Other: _____. |
|---|---|

DETAILED ACTION

In view of the Appeal filed on 20 January 2004 and especially in view of the submission of the Information Disclosure Statement on 23 January 2004, PROSECUTION IS HEREBY REOPENED. A new rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

This Office action is responsive to applicant's communication submitted on 20 January 2004. The applicant's arguments have been carefully studied and re-evaluated by the examiner. The arguments advanced therein, considered together with the amendments made to the claims, are persuasive and the rejections based upon prior art made of record in the previous Office Action are withdrawn. The previous Final rejection, mailed 31 July 2003, has been withdrawn. In view of further search, however, and the consequent discovery of relevant prior art documents and relevant documents submitted on the Information Disclosure Statement, a new rejection is set forth. This action is **not** made final. The Examiner apologizes for any inconvenience this may have caused the Applicant.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,751,878 to Kyoya in view of U.S. Patent 5,724,466 to Rickenbach et al. Referring to Figure 1, Kyoya discloses a light emitting module with a receptacle connector (4) and a plug connector (E), where the light emitting diode (1) has a radiation numerical aperture larger than that of the optical fiber and a convergent lens (2) for converging the light emitted from the light emitting diode to provide a numerical aperture smaller than that of the optical fiber (F). The divergent beam from the light emitting diode and the convergent beam from the lens is shown in Figure 5. Furthermore, although Kyoya fails to specifically disclose the connecting end face of the fiber to be arranged in a position deeper than the connecting endface of the plug, it can be observed that the end face of the fiber is positioned deeper than the connecting face from the position of where the locking arm locks (not labeled) into place with the receptacle. Additionally, Kyoya fails to disclose the optical fiber to be a multimode optical fiber. However, Rickenbach et al. also discloses a plug and receptacle type connector where either a single mode or multimode fiber can be used in the plug connector part. Since Rickenbach et al. teaches that either a single mode or multimode fiber can be used in the plug connector portion, it would have

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been obvious at the time the invention was made to a person having ordinary skill in the art to have used a multimode fiber in place of the single mode fiber disclosed by Kyoya.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,751,878 to Kyoya in view of U.S. Patent 5,724,466 to Rickenbach et al. as applied to claim 1 above, and further in view of U.S. Patent 5,923,805 to Anderson et al. Kyoya and Rickenbach et al. disclose all discussed above, but fail to mention a plastic optical fiber having a diameter not less than 0.5 mm. However, Anderson et al. does disclose an optical connector that uses a plastic optical fiber in the connector with a diameter that exceeds 300 μm , which is equivalent to 0.3mm. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a plastic optical fiber with a diameter not less than 0.5mm.

Allowable Subject Matter

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record in this application fails to disclose or reasonably suggest an optical connector with a receptacle piece and a plug piece, where the plug piece has a light emitting diode with a numerical aperture larger than the multimode optical fiber and a convergent lens converging the light emitted from the light emitting diode and a light receiving element arranged next to the light emitting element in the receptacle each with a multimode optical fiber optically connected and an optical connection mediation optical fiber arranged on the light incident side of the light receiving element.

Applicant's arguments with respect to claim 1-5 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues and Examiner agrees that Shirakawa fails to disclose a convergent lens and instead discloses a collimating lens. Furthermore, the purpose of the collimating lens disclosed by Shirakawa is to ideally collimate the light beam emitted from the light emitting diode and match the numerical aperture of the optical fiber, not to provide a numerical aperture smaller than the optical fiber. Additionally, Shirakawa fails to disclose the optical fiber in the optical connector to be a multimode fiber.

The documents submitted by applicant in the Information Disclosure Statement have been considered and made of record. Note attached copy of form PTO-1449. The reference submitted by Applicant is used in the above rejection. The reference fails to disclose or reasonably suggest the allowable subject matter discussed above.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References A-C discuss alternative arrangements and configurations of optical connectors with the common elements, light emitting element, optical fiber, and lens. The reference fails to disclose or reasonably suggest the allowable subject matter discussed above.

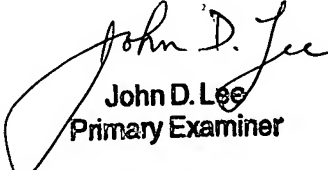
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M Lin whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


TML


John D. Lee
Primary Examiner